

**REMARKS/ARGUMENTS**

Petition is hereby made under the provisions of 37 CFR 1.136(a) for an extension of two months of the period for response to the Office Action. The enclosed cheque includes the prescribed fee.

The Examiner indicated that any application in which benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification. Applicant's Preliminary Amendment filed with this application on August 23, 2000 added a first sentence to the specification making reference to the prior filed PCT application. This reference has been expanded to include the filing date of the PCT filing and to refer to its claim to priority under 35 USC 119(e). It is submitted that the claim to priority is now properly made in the application.

The Examiner objected to claim 2 under 37 CFR 1.75(c) as being of improper dependent form, on the basis that the term "up to" included zero as a lower limit. Since claim 1 specifies the essential presence of the dewatered lignin-containing spent alkaline pulping liquor, it follows on the theory of claim dependency, that claim 2 also essentially requires the presence of such material and does not include a zero amount. Claim 2, however, has been amended to specify that the material is present in an amount of no more than 50 wt% of the bitumen. It is submitted that claim 2 is no longer open to objection under 37 CFR 1.75(c).

The Examiner rejected claims 7 to 20 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 claims a method of producing a composition by converting an aqueous colloidal dispersion of lignin in spent pulping liquor to an anhydrous colloidal dispersion of lignin in a lubricating oil. This procedure may be carried out as defined in claim 8 by mixing a lubricating oil with the spent pulping liquor and then dewatering the mixture so formed at an elevated temperature to form a cream-like paste compatible with hot bitumen. Claim 7 has been amended to incorporate the subject matter of claim 8.

Claim 16 claims a method of producing a bituminous composition by converting an aqueous colloidal dispersion of lignin in spent alkaline pulping liquor to an anhydrous colloidal dispersion of lignin in a lubricating oil and then mixing the anhydrous colloidal dispersion of lignin with bitumen.

With respect to the word "stressing" as recited in claim 18 and to which the Examiner referred, this claim has been amended to refer to the converting step being effected by dewatering at an elevated temperature, as specified on page 5, lines 8 to 9.

With respect to claims 14 and 15, these claims have been amended to clarify that the amounts refer to the final composition.

Claim 11 has been amended to refer to a linear alkyl fatty acid sulfonate. Claim 15 has been amended to refer to the spent pulping liquor, for which antecedent basis appears in claims 14 and 7. The basis of the wt% recited now is set forth in claim 15.

Having regard to the above and the amendments made to the claims, it is submitted that claims 7 to 20 can no longer be considered indefinite and hence the rejection thereof under 35 USC 112, second paragraph, should be withdrawn.

The Examiner rejected claims 7 and 13 to 15 under 35 USC 102(b) as being anticipated by Richter, the Examiner did not include claim 8 in this rejection. Claim 7 now has been limited to the specific procedure recited in claim 8. It is submitted that claims 7 and 13 to 15, in their amended form, can no longer be considered open to rejection under 35 USC 102(b) as being anticipated by Richter and hence the rejection should be withdrawn.

The Examiner rejected claims 1 to 3 and 6 under 35 USC 102(b) as being anticipated by Pitchford.

Claim 1 has been amended to define an anhydrous bituminous composition consisting essentially of the recited compounds. It is clear from the specification that the extent of dewatering of the lignin-containing spent alkaline

pulping liquor is such that an anhydrous composition results. For example at the bottom of page 6, it is recited that the heating is continued until residual water is completely evaporated off.

Pitchford describes the preparation of asphalt emulsion using non-ionic surfactants. It is clear that Pitchford neither discloses nor suggests the provision of an anhydrous bituminous composition consisting essentially of the components recited in claim 1.

Having regard thereto, it is submitted that claims 1 to 3 and 6, in their amended form, are patentable over the applied art and that the rejection thereof under 35 USC 102(b) as being anticipated by Pitchford, should be withdrawn.

The Examiner rejected claims 1 to 11 and 13 to 14 under 35 USC 102(b) as being anticipated by Pounder Emulsions Ltd.

As discussed above in connection with the rejection based on Pitchford, claim 1 has been amended to utilize "consisting essentially of" language. Claims 4 and 5 has been rewritten in independent form and utilize "consisting essentially of" language. With respect to the latter claims, it is submitted the Pounder Emulsions reference does not disclose or suggest a form of dewatered spent alkaline pulping liquor as recited thereon.

In the reference, Kraft soap skimmings are clearly an essential element of the composition described by Pounder Emulsions. However, it is clear that the applicants do not intend to use such materials. The Examiner's comments in the Office Action suggest that "consisting essentially of" language is sufficient to exclude the soap skimmings from the claims.

With respect to claims 7 to 11, 13 and 14, it is submitted that the procedures described therein are not disclosed or suggested in Pounder Emulsions. Claim 7 defines a method of producing a composition by converting an aqueous colloidal dispersion of lignin in spent pulping liquor to an anhydrous colloidal dispersion of lignin in a lubricating oil. This procedure is effected by first mixing a lubricating oil with the spent pulping liquor and then dewatering the mixture so

formed at an elevated temperature to form a cream-like paste compatible with hot bitumen.

The only description of the use of a lubricating oil in Pounder Emulsions is in Example 6. The product of this Example is an emulsion. There is no dewatering of the kraft soap skimmings. In addition, the fuel oil is blended with the asphalt which then is combined 4:1 with a water solution containing the kraft soap skimmings.

There is no procedure described, nor suggested, in which a lubricating oil is mixed with spent pulping liquor and the mixture so formed is dewatered at elevated temperature to form a cream-like paste compatible with bitumen, as recited in claim 7.

Having regard thereto, it is submitted that claims 1 to 11, 13 and 14, insofar as they remain in the application and in their amended form, are not anticipated by the cited prior art and hence the rejection of such claims under 35 USC 102(b) as being anticipated by Pounder Emulsions Ltd., should be withdrawn.

The Examiner indicated that claims 16 to 20 would be allowable if rewritten to overcome the rejection(s) under 35 USC 112, second paragraph, and to include all of the limitations of the base claim and any intervening claims. Claim 16 is an independent claim and claims 17 to 20 are dependent thereon. Having regard to the above discussion concerning the rejection under 35 USC 112, second paragraph, it is submitted that claims 16 to 20 now are in an allowable form.

The Examiner objected to claim 12 as being independent on a base rejection claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 12 has been rewritten in independent form.

The allowance of claims 21 to 31 is gratefully acknowledged.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

It is believed that this application is now in condition for allowance and early and favourable consideration and allowance are respectfully solicited.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

In the Specification:

Please replace the insertion before the first line of the specification to read:

" REFERENCE TO RELATED APPLICATIONS

This application is a US national phase application under 35 U.S.C. 371 of PCT/CA99/00155 filed February 22, 1999 claiming priority under 35 USC 119(e) from US Provisional Patent Application No. 60/075,546 filed February 23, 1998."

In the Claims:

Claim 8 has been cancelled.

Claims 1, 2, 4, 5, 7, 12, 14, 15 and 18 have been amended as follows:

1. (Amended) An anhydrous [A] bituminous composition, consisting essentially of:  
[comprising]

bitumen, and

dewatered lignin-containing spent alkaline pulping liquor stably dispersed therein.

2. (Amended) The bituminous composition of claim 1 wherein said dewatered spent alkaline pulping liquor is present in an amount of no more than [up to] about 50 wt% of the bitumen.

4. (Amended) A [The] bituminous composition, consisting essentially of:

bitumen, and

dewatered lignin-containing spent alkaline pulping liquor stably dispersed therein [of claim 1] wherein said dewatered spent alkaline pulping liquor comprises an anhydrous colloidal dispersion of lignin in a lubricating oil.

5. (Amended) A [The] bituminous composition, consisting essentially of:

bitumen, and

dewatered lignin-containing spent alkaline pulping liquor stably dispersed therein [of claim 1] wherein said dewatered spent alkaline pulping liquor comprises a stable, substantially anhydrous, colloidal dispersion of lignin in the bitumen.

7. (Amended) A method of producing a composition, which comprises:

converting an aqueous colloidal dispersion of liquor in spent pulping lignin [liquor] to an anhydrous colloidal dispersion of lignin in a lubricating oil by mixing a lubricating oil with the spent pulping liquor, and

dewatering the mixture so formed at an elevated temperature to form a cream-like paste compatible with bitumen.

11. (Amended) The method of claim 10 wherein the anionic surfactant is a linear alkyl fatty acid [linear alkyl] sulfonate.

12. (Amended) A [The] method of producing a composition, which comprises:

converting an aqueous colloidal dispersion of lignin in spent pulping liquor to an anhydrous colloidal dispersion of lignin in a lubricating oil, and [of claim 7 including]

blending the anhydrous colloidal dispersion of lignin in a lubricating oil with bitumen.

14. (Amended) The method of claim 7 wherein the spent pulping liquor is present in an amount of about 10 to about 60 wt% of the final composition.

15. (Amended) The method of claim 14 wherein the spent pulping [black] liquor is present in an amount of about 25 to 40 wt% of the final composition.

18. (Amended) The method of claim 16 wherein said converting step [which] is effected by dewatering [stressing] at elevated temperature.